

“It’s clear that the hype for Windows 95 got out of hand....  
We take our share of responsibility for creating unreasonable expectations”

Brad Silverberg, *Microsoft Senior Vice President for Personal Systems*,  
June 1995.

**BEYOND THE HYPE OF WINDOWS® 95**

**MACINTOSH**  
The Mac Advantage



Apple. The power to be your best.



“Whatever its technical limitations, the truth of the matter is that

**Windows 95** won't revolutionise anything,

let alone personal computing.

For the great majority of users it represents a good deal of hard work to learn,  
a likely investment in new hardware capable of running it at its full potential  
and a huge act of faith just to install it in the first place...

Barking mad I may well be, but I'm smart enough to recognise

**a flawed operating system** when I see one.”

*Windows User Magazine, July 1995,*

*Editorial by Sean Geer*



# The Mac Advantage

Windows 95 represents the largest hype campaign in the history of personal computers. In Microsoft's own words they have created "unreasonable expectations". In reality it is a nice upgrade for Windows users prepared to make the investment. A PC running Windows 95, however, is still not a Macintosh.

As Windows seeks to implement features pioneered by the Macintosh in the 1980s, Apple is moving ahead to the next generation of personal computing, ushering Macintosh users into the world of advanced multimedia (video, 3D and virtual reality), personalised work environments and active assistance. A Macintosh is simply a more advanced computer; it works better and it lets you do more.

Apple is the only major personal computer company that makes both the operating system and the hardware, together. Apple uses that advantage to build in advanced features faster than the PC world can, and to make them work better. So whether you use your Macintosh to run your business, to provide students with a head start or to entertain, educate and work at home, the Macintosh gives you four key advantages:

- A Macintosh is more powerful,
- It's easier to use,
- It has more advanced multimedia, and
- It's compatible.

For over a decade, Apple has built a solid foundation of innovation and tightly integrated systems. Today over 20 million Macintosh users are more satisfied<sup>†</sup> and more productive<sup>‡</sup>. In the areas which will drive the future, Apple has the lead. Publishing is dominated by the Macintosh, multimedia developers prefer Macintosh by more than 3 to 1 and Macintosh is the most used brand of personal computer on the Internet (both clients and servers). So you can look forward to the Mac advantage continuing into the next century.

<sup>†</sup> Roper Research

<sup>‡</sup> Arthur D. Little

"So what's my point here?  
Am I saying that you  
should all go out and buy  
Macintoshes? Well, maybe  
I am....If you're in the  
market for a new PC,  
have a look at a Power  
Mac. I think you'll be  
pleasantly surprised."

*Windows User Magazine,  
June 1995,  
Editorial by Sean Geer*



# *If you have a Mac, you have an advantage*

## Macintosh advantage in business

Today, in Australia, more people accomplish more in their business on a Macintosh than any other brand of personal computer\*.

A business depends on its personal computers. They're a major investment, and if they don't work as expected, the business suffers immediately. A Power Macintosh is the safest investment for a business, because it's the most versatile computer. It lets you do more, makes you more productive, and because it's so advanced it is less likely to become obsolete than a standard PC.

As everyone knows, Macintosh computers are easier to learn and use than standard personal computers. That means there's less time wasted on training and support, which reduces end-user computing costs and makes people more productive. The advanced features of the Power Macintosh mean it's ready to help you increase your capabilities. For example, creating multimedia presentations is easy and makes you look even more professional.

It's easy to hook up to any network including the Internet — not only to get information, but to communicate with your customers. And as you'd expect from a Macintosh, its advanced graphics features make it easy for you to create persuasive, professional-looking documents.

The power of a Power Macintosh lets you get work done faster and more efficiently. The Macintosh performance advantage is greatest in graphics and multimedia. That may sound like a specialised function today, but remember that's what people said about laser printers and desktop publishing a decade ago. Even Microsoft and Intel agree that the computers of the future will all use multimedia and graphics to help you communicate; by getting a Power Macintosh, you get a jump on that future.

But a Macintosh is also a very safe purchase because it's the only major personal computer that you can set up to run DOS, Windows, and Macintosh software. So you have the freedom to use the programs that are right for your work, without worrying about what format those programs are in.

\*IDC Research 1995 - largest installed base of small, medium business personal computers.

*"Indeed, it would not be an exaggeration to describe the history of the computer industry for the past decade as a massive effort to keep up with Apple ... (the Mac) went on to pioneer on popularize almost every innovation in personal computing"*

*Byte, December 1994*



## Macintosh advantage in education

Today, in Australia, more students accomplish more in their education on a Macintosh than any other brand of personal computer\*.

It's more powerful, so students can work faster and be more creative. And because of all that advanced power, you know it will satisfy your needs now and in the future. That's important because schools keep computers for so long.

It's easier to use, so educators and students don't have to spend too much time figuring it out. It makes Internet access really easy, and it has built-in advanced help that shows you what to do, step by step.

Advanced multimedia makes a Macintosh a much richer learning tool. Virtual reality can be more realistic than on a PC, 3D lets students experience and even create simulations. Powerful but easy Macintosh multimedia tools like *HyperStudio* make it easy for students to create multimedia presentations.

Because the Power Macintosh is compatible and lets students switch between DOS, Windows or the Macintosh operating systems, they can learn to use all three if they need to or if their parents want to be sure they try them all.

## Macintosh advantage at home

Today, more Australian families learn, work and play on a Macintosh computer than any other brand of personal computer\*.

There are three main reasons for buying a home computer: helping your kids learn (and maybe yourself also), entertaining yourself and your family, and working (either bringing work home from the office or running your business from home).

For helping your family learn, Macintosh is the natural choice because it's the #1 computer for education around the world, with many unique programs that you can't even get on a PC. Its lead in multimedia makes it easy for your whole family to explore new things and learn to create multimedia reports for school, something that can be a nightmare on a Windows PC. Internet access is also very easy either directly or through our safe electronic community - eWorld.

Because of the power of Macintosh, it's also the most entertaining computer. Macintosh games include some of the hottest, most realistic titles in the industry. Flight simulators like *A-10* look like something you'd find on a professional modelling workstation. Graphical adventures like *Marathon* have incredibly rich pictures and real-time action.

\*IDC Research 1995 - largest installed base of education personal computers - largest installed base of home personal computers.

"If you are shopping for a home computer because you want to 'join the multimedia revolution,' there is only one sensible choice: Get a Mac. This sounds like a hard sell, so let me say right off that I am not now nor have I ever been on Apple Computer's payroll. But like every computer columnist, I'm barraged by readers and friends who want to know which of the two species to invest in: The IBM-spawned, Intel-chip-based, Microsoft-code-driven PC or the Apple Macintosh. And the answer I give them is the same I hear from multimedia professionals: Get a Mac."

*Scott Rosenberg,  
San Francisco Examiner,  
June 28, 1995*



Introducing Windows 95.  
It lets you use more than  
eight characters to name  
your files.

*Imagine that.*

Introducing Windows 95.  
It lets you drop files  
anywhere you want on  
the desktop

*Imagine that.*

Every Macintosh comes with a networking connector, so it's easy for everyone to play together. And, with the DOS compatibility card, you can run the large library of DOS and Windows games, too. So you get the best of the old and the new.

For doing work at home, Macintosh is the best choice because it's the most compatible. It's the only personal computer on the market today that you can buy equipped to run DOS, Windows, and Macintosh software, so it can handle your work no matter what that work is. And because Macintosh is so easy to set up and use, you can do whatever you want without many of the headaches and extra expenses associated with an ordinary PC running Windows. *AppleGuide* even helps you out when there's no one around to answer questions.

## The Macintosh is more powerful

### Higher performance

The PowerPC "RISC" chips used in Macintosh computers often outperform Intel Pentium "CISC" chips, sometimes by a wide margin. For instance, a Power Macintosh 9500 120 outperformed a 120 MHz Pentium computer by 52% overall in independent benchmarks\*. The Macintosh performance advantage was even greater in scientific and technical applications and in graphics and publishing.

### A powerful future

The Macintosh speed advantage will increase over time. Today's Power Macintosh computers are based on the same RISC architecture used in high-performance workstations. Windows 95 machines are based on the same CISC technology used in the very first IBM PC — and so won't be able to take advantage of the power of RISC. Industry experts agree that RISC architectures provide better performance than CISC today, and that the gap will widen over time. In fact, PC Week stated that "all RISC architectures will outperform the P6 (Intel's next processor) by the end of this year." (PC Week, February 27, 1995.)

### Powerful programs

The extra power of PowerPC is letting developers create great new products they couldn't before, and supercharge their existing ones. As InfoWorld observed, "New applications such as integrated telephony, video, graphics, multimedia, and voice recognition call for a dramatic lifting of the power/price curve only achievable with RISC technology." (InfoWorld, June 27, 1994.)

For example, the numerical modelling program *Mathematica* produces workstation-level performance on a Power Macintosh. Many multimedia and graphics programs such as Strata's *StudioPro* run only on Power Macintosh. In the games area, some of the hottest new flight simulators take advantage of the high performance of a Power Macintosh to do things you could find previously only on a computer workstation. Programs like *A-10*, *F/A-18*, and *Flying Nightmares* are available only on the Macintosh, or perform better in their Macintosh versions.

\* Research by Competitive Assessment Services.



### Powerful built-in software features

AppleScript is a built-in scripting system that lets you customise the operation of the Macintosh, and automate complex tasks. Nothing similar is built into Windows 95.

Apple's WorldScript text software allows advanced multilingual support — even mixing wildly different languages like Arabic and Japanese in the same line of text — very important to multinational companies and users in Asia and the Middle East.

### Powerful features standard

The other area in which the Macintosh excels is built-in powerful features, things that either aren't available on the PC or cost extra.

A built-in Small Computer Systems Interface connector (SCSI for short) lets you easily add and remove devices like CD-ROM drives and hard disks, without opening the computer case. It's built into every Macintosh, but is still an extra cost option on most PCs.

The Apple Desktop Bus connector lets you easily add and remove input devices like a keyboard, mouse, graphics tablet, trackball, and others. Unlike the PC, you don't use up a serial port to do this, and devices are generally recognised automatically by the system.

On many Macintosh computers, Apple is now building in a telecommunications connector called GeoPort. It lets you easily connect low-cost, high-speed modems and other communications devices. Ethernet networking is standard on most Macintosh computers, but is rarely built in on PCs. Sound in and out are standard on all Macintosh computers, but still an add-on for some PCs.

## The Macintosh has greater ease of use

Macintosh is well known as the easiest computer to use, and although Windows 95 makes a PC look more like a Macintosh, the Macintosh is still a lot easier to use.

### Better help

*AppleGuide* is an interactive help system that not only tells you how to do things, but actively coaches you through the process by showing you exactly where to click the mouse and where to type. The Windows help system doesn't have these sort of hints.

### Plug & Play that works

Plug & Play technology works seamlessly on the Macintosh today, but is still going through a long and difficult maturation process on the PC. Computerworld magazine predicts it will be two years before PC users see the full benefit of Windows 95 Plug and Play — and to get it, they'll need to replace all their old computers and peripherals.

Remember Apple is the only computer company that makes the operating system and the hardware, so we can guarantee plug & play.

"Which computer do I recommend? I think you should get the same kind of computer that your most technically astute friend uses — a friend you can call at midnight on Sunday when you really get stuck. If you buy a Mac, you won't need an expert, since you won't get stuck nearly as often. And if you don't have a technical friend, you will be much better off with a Mac....

*Cary Lu,  
Seattle Times, June 18,  
1995*



Microsoft tells everyone that its forthcoming Windows 95 is more like a Macintosh. The key features of Windows 95 — long file names, plug-and-play hardware installation, direct file display — have been on the Mac for eleven years. Yet despite much clever engineering by Microsoft, Windows 95 cannot overcome the chaos inherent to the PC world, both for hardware and for the need now to run three wildly different operating systems and application software (for DOS, Windows 3.1, and Windows 95). Mac users have never had to cope with such jarring changes."

Cary Lu,  
*Seattle Times*,  
June 18, 1995

### Easier multimedia installation

It's generally very easy to set up multimedia applications on the Macintosh. But it can still be a nightmare to install multimedia hardware and software on the PC, even after Windows 95, because most PC multimedia software depends on old DOS features like CONFIG.SYS.

### Easier PCI (Peripheral Component Interconnect)

Because Apple controls both the hardware and software, it was able to engineer its new PCI expansion connectors for easy installation and compatibility, in contrast to the compatibility problems that have been reported on the PC.

### Easier networking

Networking on the Macintosh is incredibly simple, because Apple builds network hardware into every computer, and the *AppleTalk* networking software is self-configuring. Apple's *PowerTalk* software adds a powerful universal in-box for e-mail, fax, voice and other communications, and Open Transport makes it easy to work with multiple network protocols.

### Easy Internet

Macintosh makes it easy to access information from the Internet, and to publish your own information onto it.

The Apple Internet Server Solution (AISS) is a very easy and affordable way to establish a presence on the World Wide Web (WWW). AISS is a virtual WWW server in-a-box, an all in one solution that consists of an Apple Workgroup Server and CD-ROM that contains all the software a user needs. The server installs with a single click of the mouse, requires no knowledge of UNIX, and can be up and running in minutes.

The Apple Internet Connection Kit is a client software suite which includes *Netscape*, the industry leading multiplatform Web browser; and *PostalShark*, one of the most robust commercial E-mail solutions available today on the Internet. *AppleGuide* adds comprehensive, easy to use online help integrated throughout the suite of applications.

Apple's eWorld communication software includes very easy access to the Internet.

### Easy telephony

Apple's GeoPort and Megaphone make powerful telephony integration very easy to implement.

### Easy videoconferencing

Apple's QuickTime Conferencing, built into many Macintosh computers starting in August '95, makes it very easy and inexpensive to do desktop videoconferencing. Virtually everything you need is already built into the computer.

### Easy security and customisation

Apple's *At Ease* software can dramatically simplify the desktop interface for some users and can provide important security features to protect files from unauthorised users.



## More consistent applications

Consistency is a key to ease of use, and Macintosh has set the standard in consistency for over a decade. Keyboard shortcuts are similar between applications, so the applications themselves are easier to use and to learn. And Macintosh programs all work the same way. For instance, when you open multiple files created in the same application, the Macintosh launches that application only once. Unfortunately, Windows 95 sometimes launches a new copy of the same application for each file, depleting valuable system memory.

## Easier installation of resources

Macintosh users can simply drag resources such as fonts and printer drivers onto the System Folder, and they are automatically installed where they belong. Windows 95 users must first locate the appropriate destination of each resource, and then load each one individually.

## Overall ease of use

Based on our in-house testing of pre-release copies of Windows 95, we think people will find a surprising number of usability problems. None of these problems are critical, but taken together, they create significant usability issues for users, especially new ones. Here are just some examples:

Windows 95 can become confused if files or applications are moved.

The menu system in Windows is less intuitive than the Macintosh one and can hide information.

DOS is still there. For instance: If there are problems, users may still have to sort through the dreaded CONFIG.SYS and AUTOEXEC.BAT files. The DOS file system is still very much present; users have to understand path names, 3-character extensions, and have to avoid using characters such as \* and / in filenames because they can cause problems.

## More advanced multimedia

Macintosh is well known as a leader in multimedia, and that lead is growing.

Built-in 3D drawing features will come to the Macintosh in 1995 in the form of QuickDraw 3D. It makes creating and displaying 3D images easy, and uses the power of the PowerPC chip to display those images clearly and quickly. Nothing like it comes with Windows 95.

## Virtual reality software

QuickTime VR is also a major Macintosh advantage. Using QuickTime VR, you can explore a museum on the other side of the world, or visit a place that exists only in imagination (anything from a proposed building to the Starship Enterprise). Although QuickTime VR is available for both the Macintosh and PC, it is smoother and more realistic on the Power Macintosh because of the speed of PowerPC.

## Advanced drawing and text

*QuickDraw GX* is a sophisticated drawing environment that goes beyond what you get with Windows. It lets you create 3D type, ligatures, and other sophisticated effects. It is far ahead of the drawing and text manipulation environment in Windows 95.

Apple Computer: #1  
multimedia PC vendor  
worldwide in 1994.

*Dataquest 1995*  
"Multimedia Market  
Trends" report.



### Easier CD installation

Because Apple designs its multimedia hardware and software together, they work together a lot better than the PC world. So multimedia titles are easier to install on the Macintosh. Windows 95 improves this situation for some, but does not completely resolve it.

### Versatile video

Capturing and playing back video on the Macintosh is much easier as well. The Macintosh knows how to deal with analog, NTSC, and PAL video signals, and video in and out connectors are built into many Macintosh models.

### Correct colours

Colour matching problems are reduced by Apple's *ColorSync* software, which ensures there is colour consistency when you scan images, retouch them on screen and then print them.

### Speech

Some day in the distant future, Microsoft and Intel say, you'll be able to talk to your computer. You'll tell it what to do, and the computer will talk back. That future is available today on Power Macintosh computers. Most models come with speech synthesis and speech recognition software built in. The speech features in Microsoft's Sound System are at least two generations behind and require extra hardware because the PC architecture is not powerful enough.

### The most popular choice for multimedia

Finally, the Macintosh has become the most popular platform for working with and creating multimedia tools. Macintosh multimedia-based education software is well known for its quality and variety, and we're starting to see a new generation of exciting multimedia games made possible by the power of the PowerPC chip. The selection of tools for multimedia development on the Macintosh is also excellent, which is why many Windows programmers do their multimedia software first on the Macintosh. According to a 1994 Dataquest study, 63 percent of all multimedia developers use Macintosh regardless of the operating system they choose to launch in. And a recent article in The San Francisco Examiner said, "It's true that corporate America is dominated by PCs. Creative America, though, has chosen otherwise. Walk into any newsroom, desktop publishing centre, design studio, or online service office, and 9 times out of 10 you will see a wall of Macintosh computers."

No matter what you do, expectations at work are growing as technology evolves. With a Macintosh your creativity is limited only by your imagination - it provides the sophisticated multimedia tools you need now and in the future.

## Compatibility

It may seem strange to list this as a Macintosh advantage, considering Apple's history as an alternative to the PC, but it's an area in which Apple has made a big commitment. Apple is in the process of changing the Macintosh into a system that's standards-plus, so you can choose a Macintosh and not have to give up the option of working with PC files or other operating systems.

Windows 95 test results show that about 600 out of the 2,500 applications tested displayed problems that require fixes, upgrades, or, in some cases, entirely new versions designed specifically for Windows 95. The list does not include in-house applications.

PC Week - 8 July 1995



## Read and write PC files

The first step in this process was to add file compatibility to Macintosh computers, making it easy for a Macintosh user to read PC disks and work with PC files. The capability to read PC disks is now built into every Macintosh sold today, and file translators are available for most popular PC file formats, and many of the less popular ones, too. The Macintosh "Easy Open" feature even suggests which applications you can use to open unknown files.

## Run DOS and Windows with software

The second step was the *SoftWindows* software "emulator," which lets a Power Macintosh run DOS and Windows programs. For some users, *SoftWindows* is not powerful enough, but for many people it's a great, low-cost way to access DOS and Windows programs when you need them. A new, more powerful version of *SoftWindows* which adds Enhanced Mode compatibility is coming later this year.

## Run DOS and Windows with hardware

The final step is full hardware compatibility, which Apple delivers by putting an Intel chip on a board and installing it in the Macintosh. These cards are already available for many models of Macintosh, both from Apple and from third parties like Reply Corp. and Orange Micro. Apple is committed to making our computers compatible in the next 12 months. Macintosh is becoming the most compatible mainstream computer — more compatible than even a standard PC, since they can't run Macintosh programs.

## Network compatibility

The other major compatibility thrust for Apple is making a Macintosh connect to virtually any computer network system or host computer environment, often adding significant value and ease of use over other access methods. *Netware* and *NT Server* support Macintosh and are often popular methods for sharing information between Macintosh computers and PCs.

# Performance

A Power Macintosh 9500 132, the fastest Macintosh computer to date. It outperformed a 120 MHz Pentium computer by 63% overall. A Pentium at 120 MHz was the fastest Intel-based computer available at test time. The Power Macintosh 9500 132 advantage was even greater in some areas — the scientific and technical applications tested were an average of 80% faster, and in graphics and publishing the Macintosh was 102% faster. Benchmarks were conducted by Competitive Assessment Services, an independent testing service, on equivalently configured Power Macintosh and x86 processor-based PCs running Windows. The tests consisted of measuring the actual elapsed time required to perform various tasks. Unlike processor-only or other low-level benchmarks, the test results reflect the performance of real applications on actual systems. The tasks involved a mix of integer, floating point, disk and graphics activities. The applications used were *Excel*, *Word*, *ClarisWorks*, *FoxPro*, *Freehand*, *Painter*, *FrameMaker*, *DeltaGraph*, *Mathematica* and *Ashlar Vellum*.



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